

**IN THE CLAIMS:**

Please amend the claims as follows:

1. (Amended) A multivalent F<sub>v</sub> antibody construct having at least four variable domains [which], wherein said variable domains are linked with one another via [the] a peptide [linkers] linker 1, a peptide linker 2 and a peptide linker 3, wherein [the] said peptide [linkers] linker 1 and said peptide linker 3 have [0] about 1 to about 10 amino acids.

2. (Amended) The F<sub>v</sub> antibody construct [according to claim] of Claim 1, wherein [the] said peptide [linkers] linker 1 and peptide linker 3 have the amino acid sequence GG.

3. (Amended) The F<sub>v</sub> antibody construct [according to claim] of Claim 1 [or 2], wherein [the] said F<sub>v</sub> antibody construct is bivalent.

4. (Amended) The F<sub>v</sub> antibody construct [according to claim] of Claim 3, wherein [the] said peptide linker 2 has about 11 to about 20 amino acids.

5. (Amended) The F<sub>v</sub> antibody construct [according to claim] of Claim 3 or 4, wherein [the] said peptide linker 2 has the amino acid sequence (G<sub>4</sub>S)<sub>4</sub>.

6. (Amended) The F<sub>v</sub> antibody construct [according to claim] of Claim 1 [or 2], wherein [the] said F<sub>v</sub> antibody construct is tetravalent.

7. (Amended) The F<sub>v</sub> antibody construct [according to claim] of Claim 6, wherein [the] said peptide linker 2 has about 3 to about 10 amino acids.

8. (Amended) The F<sub>v</sub> antibody construct [according to claim] of Claim 6 or 7, wherein [the] said peptide linker 2 comprises the amino acid sequence GGPGS.

9. (Amended) The F<sub>v</sub> antibody construct [according to any of claims] of Claim 1 [to 8], wherein [the] said F<sub>v</sub> antibody construct is multispecific.

10. (Amended) The F<sub>v</sub> antibody construct [according to claim] of Claim 9, wherein [the] said F<sub>v</sub> antibody construct is bispecific.

11. (Amended) The F<sub>v</sub> antibody construct [according to any of claims] of Claim 1 [to 8], wherein [the] said F<sub>v</sub> antibody construct is monospecific.

12. (Amended) A method of producing the multivalent F<sub>v</sub> antibody construct [according to any of claims] of Claim 1 [to 11, wherein DNAs coding for the], comprising:

(a) ligating nucleic acids encoding a peptide [linkers] linker 1, a peptide linker 2 and a peptide linker 3 [are ligated] with [DNAs coding for the] nucleic acids encoding four variable domains of an F<sub>v</sub> antibody construct such that [the] said peptide [linkers] linker 1, 2, and 3 link the variable domains with one another; and

(b) subcloning the [resulting DNA molecule is expressed in] nucleic acid of step (a) into an expression plasmid.

13. (Amended) [Expression] An expression plasmid [coding for the multivalent F<sub>v</sub> antibody construct according to any of claims 1 to 11] comprising the nucleic acid of Claim 22.

14. (Amended) The expression plasmid [according to claim] of Claim 13,  
[namely] wherein said expression plasmid is pDISC3x19-LL as deposited with DSM.

15. (Amended) The expression plasmid [according to claim] of Claim 13,  
[namely] wherein said expression plasmid is pDISC3x19-SL as deposited with DSM.

16. (Amended) The expression plasmid [according to claim] of Claim 13,  
[namely] wherein said expression plasmid is pPIC-DISC-LL as deposited with DSM.

17. (Amended) The expression plasmid [according to claim] of Claim 13,  
[namely] wherein said expression plasmid is pPIC-DISC-SL as deposited with DSM.

18. (Amended) The expression plasmid [according to claim] of Claim 13,  
[namely] wherein said expression plasmid is pDISC5-LL as deposited with DSM.

19. (Amended) The expression plasmid [according to claim] of Claim 13,  
[namely] wherein said expression plasmid is pDISC5-SL as deposited with DSM.

20. (Amended) [Use of] A composition comprising the multivalent F<sub>v</sub> antibody  
construct [according to any] of [claims] Claim 1 [to 11] for [the] diagnosis and/or treatment  
of [diseases] a disease.

21. (Amended) [Use according to claim] The composition of Claim 20, wherein  
[the diseases are] said disease is a viral, a bacterial or a tumoral [diseases] disease.

Please add the following new Claims 22-25:

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22. (New) A nucleic acid encoding the F<sub>v</sub> antibody construct of Claim 1.

23. (New) A host cell comprising the expression plasmid of Claim 13.

24. (New) A method of treating a disease, comprising administering the composition of Claim 20.

25. (New) A method of making a multivalent F<sub>v</sub> antibody construct, comprising cultivating the host cell of Claim 23 under conditions that said multivalent F<sub>v</sub> antibody construct is expressed.

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## CLAIMS

### WHAT IS CLAIMED:

1. A multivalent F<sub>v</sub> antibody construct having at least four variable domains which are linked with one another via the peptide linkers 1, 2 and 3.
- 5 2. The F<sub>v</sub> antibody construct according to claim 1, wherein the peptide linkers 1 and 3 have 0 to 10 amino acids.
3. The F<sub>v</sub> antibody construct according to claim 2, wherein the peptide linkers 1  
10 and 3 have the amino acid sequence GG.
4. The F<sub>v</sub> antibody construct according to any of claims 1 to 3, wherein the F<sub>v</sub> antibody construct is bivalent.
- 15 5. The F<sub>v</sub> antibody construct according to claim 4, wherein the peptide linker 2 has 11 to 20 amino acids.
6. The F<sub>v</sub> antibody construct according to claim 4 or 5, wherein the peptide  
linker 2 has the amino acid sequence (G<sub>4</sub>S)<sub>4</sub>.
- 20 7. The F<sub>v</sub> antibody construct according to any of claims 1 to 3, wherein the F<sub>v</sub> antibody construct is tetravalent.
8. The F<sub>v</sub> antibody construct according to claim 7, wherein the peptide linker 2  
25 has 3 to 10 amino acids
9. The F<sub>v</sub> antibody construct according to claim 7 or 8, wherein the peptide linker 2 comprises the amino acid sequence GGPGS.
- 30 10. The F<sub>v</sub> antibody construct according to any of claims 1 to 9, wherein the F<sub>v</sub> antibody construct is multispecific.

11. F<sub>v</sub> antibody construct according to claim 10, wherein the F<sub>v</sub> antibody construct is bispecific.

12. The F<sub>v</sub> antibody construct according to any of claims 1 to 9, wherein the F<sub>v</sub> antibody construct is monospecific.

13. A method of producing the multivalent F<sub>v</sub> antibody construct according to any of claims 1 to 12, wherein DNAs coding for the peptide linkers 1, 2 and 3 are ligated with DNAs coding for the four variable domains of an F<sub>v</sub> antibody construct such that the peptide linkers link the variable domains with one another and the resulting DNA molecule is expressed in an expression plasmid.

14. Expression plasmid coding for the multivalent F<sub>v</sub> antibody construct according to any of claims 1 to 12.

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15. The expression plasmid according to claim 14, namely pDISC3x19-LL.

16. The expression plasmid according to claim 14, namely pDISC3x19-SL.

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17. The expression plasmid according to claim 14, namely pPIC-DISC-LL.

18. The expression plasmid according to claim 14, namely pPIC-DISC-SL.

19. The expression plasmid according to claim 14, namely pDISC5-LL.

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20. The expression plasmid according to claim 14, namely pDISC5-SL.

21. Use of the multivalent F<sub>v</sub> antibody construct according to any of claims 1 to 12 for the diagnosis and/or treatment of diseases.

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22. Use according to claim 21, wherein the diseases are viral, bacterial or tumoral diseases.

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### Claims As Amended In Response To Written Opinion

1. A multivalent F<sub>V</sub> antibody construct having at least four variable domains  
5 which are linked with one another via the peptide linkers 1, 2 and 3, wherein the peptide  
linkers 1 and 3 have 0 to 10 amino acids.
2. The F<sub>V</sub> antibody construct according to claim 1, wherein the peptide linkers 1  
and 3 have the amino acid sequence GG.
- 10 3. The F<sub>V</sub> antibody construct according to claim 1 or 2, wherein the F<sub>V</sub> antibody  
construct is bivalent.
4. The F<sub>V</sub> antibody construct according to claim 3, wherein the peptide linker 2  
15 has 11 to 20 amino acids.
5. The F<sub>V</sub> antibody construct according to claim 3 or 4, wherein the peptide  
linker 2 has the amino acid sequence (G<sub>4</sub>S)<sub>4</sub>.
- 20 6. The F<sub>V</sub> antibody construct according to claim 1 or 2, wherein the F<sub>V</sub> antibody  
construct is tetravalent.
7. The F<sub>V</sub> antibody construct according to claim 6, wherein the peptide linker 2  
has 3 to 10 amino acids.
- 25 8. The F<sub>V</sub> antibody construct according to claim 6 or 7, wherein the peptide  
linker 2 comprises the amino acid sequence GGPGS.
9. The F<sub>V</sub> antibody construct according to any of claims 1 to 8, wherein the F<sub>V</sub>  
30 antibody construct is multispecific.



10. F<sub>V</sub> antibody construct according to claim 9, wherein the F<sub>V</sub> antibody construct is bispecific.

11. The F<sub>V</sub> antibody construct according to any of claims 1 to 8, wherein the F<sub>V</sub> antibody construct is monospecific.

12. A method of producing the multivalent F<sub>V</sub> antibody construct according to any of claims 1 to 11, wherein DNAs coding for the peptide linkers 1, 2 and 3 are ligated with DNAs coding for the four variable domains of an F<sub>V</sub> antibody construct such that the peptide linkers link the variable domains with one another and the resulting DNA molecule is expressed in an expression plasmid.

13. Expression plasmid coding for the multivalent F<sub>V</sub> antibody construct according to any of claims 1 to 11.

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14. The expression plasmid according to claim 13, namely pDISC3x19-LL.

15. The expression plasmid according to claim 13, namely pDISC3x19-SL.

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16. The expression plasmid according to claim 13, namely pPIC-DISC-LL.

17. The expression plasmid according to claim 13, namely pPIC-DISC-SL.

18. The expression plasmid according to claim 13, namely pDISC5-LL.

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19. The expression plasmid according to claim 13, namely pDISC6-SL.

20. Use of the multivalent F<sub>V</sub> antibody construct according to any of claims 1 to 11 for the diagnosis and/or treatment of diseases.

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21. Use according to claim 20, wherein the diseases are viral, bacterial or tumoral diseases.

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